ligurica for the species with long falces so newly identified. Chapman described it as a "New European *Lycaena*" under the name *argus* sp. nov.

As the years passed more names were published, difficulties arose, and the International Commission for Zoological Nomenclature (I.C.Z.N.) was asked to help with the situation reported by Courvoisier and Chapman. They were asked especially to select suitable names for those species recently identified by examination of the genitalia and to select a type species for the genus *Lycaeides*. All of this proved to be extremely difficult. It involved examination of a large number of specimens. In many cases no obvious scientific name existed, and finding one often called for considerable ingenuity; so, not surprisingly, the work took several decades. The first results were promulgated by the Commission in 1945 (Opinion 169) and finally in 1954 (Opinion 269). Among the important decisions was the selection of the Linnean name *idas* 1761 for the commoner species of *Lycaeides*. This was made possible by suppressing the earlier appearance of the name for a species so badly described as to be impossible to interpret. In dealing with the second species, recently identified and with specific characters in the male genitalia, the Commission was fortunate when it was found and announced in Opinion 269 that these characters were actually present in specimens of *Lycaeides* from the Bruchköbler Wald in northern Germany as recorded by Bergsträsser in his original description. *Lycaeides argyrognomon*, therefore, must become the valid specific name for this species, with impressive priority to 1779, taking precedence before all others.

During the long interval after the Commission began its work and the final Opinion in 1954, entomologists naturally continued to use the butterfly names with which they were familiar. It was during these years that V. Nabokov made many contributions, especially concerning the *Lycaeides* distributed in North America.

When discussing what should now be called *L. idas*, he used the name "*argyrognomon*," not invalid for much of that time, but after the announcement of Opinion 269 in 1954 the position changed radically. This name was restricted to a newly identified European butterfly. Applied to any other species (e.g., *L. idas*) would be to create a misidentification, and to use it so must be entirely against the Rules. The correct use of the name *Lycaeides idas* L. proposed by the Commission has been accepted everywhere in Europe and Asia. I cannot understand why it has not been accepted in North America.

Catalogue headings for Europe and America should be as follows:

Lycaeides argyrognomon Bergsträsser 1779 (*Papilio*). Europe.
syn: *ligurica* Oberthür 1910 (*Lycaena*); syn: *aegus* Chapman 1917 (*Plebejus*).
Lycaeides idas Linnaeus 1761 (*Papilio*). Palaearctic Region & North America.
syn: *scudderi* W. H. Edwards 1861 (*Lycaena*); syn: *anna* W. H. Edwards 1861 (*Lycaena*); syn: *argyrognomon sensu* Kirby *et Auctorum, nec* Bergsträsser [misidentification].
Lycaeides melissa W. H. Edwards 1875 (*Lycaena*). North America, ?E. Siberia, ?Japan.

LIONEL G. HIGGINS, *Focklesbrook Farm, Chobham, Woking, Surrey, England GU24 8HB.*

Journal of the Lepidopterists' Society
39(2), 1985, 146–150

TIGRIDIA ASESTA (LINNAEUS) (NYMPHALIDAE) IS NOT ASSOCIATED WITH *THEOBROMA CACAO* L. (STERCULIACEAE)

The medium-sized (spread wingspan, tip-to-tip, 4.5 cm) orange, brown and white nymphalid butterfly, *Tigridia asesta* (Linnaeus), is broadly distributed in moist-to-wet tropical forests of Central and South America (Seitz, 1904, Macrolepidoptera of the World, Vol. 5: The American Rhopalocera, A. Kernan, Stuttgart). A general description

of the larva has been given, and the larval food plant reported to be "cocoa (*Theobroma*)" in the Upper Amazon (Seitz, op. cit.). In this note I report that the larval food plant of this butterfly in eastern Costa Rica is *Pourouma* sp. (Moraceae) and that the larva will also feed successfully on *Cecropia* sp. in the same family. My description of the larval stages also differs from that reported in Seitz (op. cit.). Based upon these preliminary natural history observations in Costa Rica, I conclude tentatively that the larval food plant record in Seitz (op. cit.), the only known food plant record for this species, is erroneous. Based upon the leaf size and shape in moraceous plants, it is easy to understand the mistaken identity of the food plants as being *Theobroma* (Sterculiaceae).

On 29 February 1984 two spinose, nymphalid-like larvae were discovered on a 0.5 m tall moraceous seedling along a weedy roadside at "Finca La Tirimbina," near La Virgen (10°23′N, 84°07′W; 220 m elev.), Heredia Province. The locality is within the "premontane tropical wet forest" zone of the Atlantic watershed and Sarapiqui District. The entire seedling was uprooted and placed in an airtight, clear-plastic bag. In this manner both larvae were reared, one to adulthood. The bottom of the bag was lined with a few layers of soft paper to absorb excess moisture and fecal material, and this paper was removed and replaced every 2–3 days. The larval "culture" was transported from this locality to other points in Costa Rica during the rearing period. The single adult obtained, along with its pupal shell and two larval head capsules, are deposited in the entomological collections of the Milwaukee Public Museum. During the rearing period, the one larva that eventually pupated was transferred from the original food plant to fresh meristems of *Cecropia* sp. (Moraceae) collected near Turrialba, Cartago Province, Costa Rica.

The third, fourth, and fifth larval instars, and the pupa, of *T. asesta* are shown in Fig. 1. Information on earlier life stages was not available. What follows is an overall composite description of larval and pupal stages based upon this material. Chaetotaxy is not given since I am not erecting a key to related species or genera. The larval descriptions are consistent with the format and depth of such information as presented on recent pages of this journal.

Third instar. 10–18 mm long (Fig. 1) with glossy black head capsule. Head capsule with one pair of 4 mm long scoli curved slightly posteriorly. Each head scolus with extensive number of short black spines along entire length. Body coloration generally brownish orange and all segments with black spines. Spine distribution the same as to be described below for the fifth instar. The anterior edge of each trunk segment bears a pair of small white dots dorso-laterally. All feet black.

Fourth instar. Very similar to third instar except body coloration now velvety black (Fig. 1). This instar attains a body length of about 25 mm prior to molting to the fifth (final instar).

Fifth instar. Attains a final length of 40 mm before pupation. Head capsule glossy dark red and notably bilobed vertically into two halves. Each head scolus about 7 mm long, curved slightly posteriorly, and arising from the apex of each head capsule "lobe." Head scolus with white tip and many black spines of varying lengths. Coloration of trunk region now a dull reddish brown, almost a pale maroon hue. Body with many small white spots, each ringed in black, and giving the trunk region a speckled appearance (Fig. 1). Head capsule width now 2.2 mm and entire structure adorned with many small black spines. First thoracic segment with dorsal raised rectangular black "plate" bearing one pair of setae curved anteriorly. Pair of latero-ventrally located white spots ringed in black and with tiny black seta arising near each. Posterior edge of segment with a few small white dots ("flecks"). Second thoracic segment with two pairs (one dorsal and one lateral) of long, branched black spines; each of these spines with four small branches or spinelets. Immediately anterior to the spines one pair of dorsally located white dots ringed in black; posteriorly with dorso-lateral doublet of these spots and with a very small white dot immediately behind each of the dorsal-most members of the two doublets. Additional ringed white spot located latero-ventrally on each side. Third thoracic segment identical to the second. All thoracic spines about 4 mm long and all with the four spinelets about ⅓ the way down from tips.

First abdominal segment bears markings similar to thoracic segments 2 and 3, but now with three pairs of black spines, all the same length. Same arrangement of spines repeated

FIG. 1. Clockwise, from upper left photograph: third, fourth, and fifth larval instars, and pupa, all *in situ*, for *Tigridia asesta* (Linnaeus) (Nymphalidae) from the Sarapiqui District of Costa Rica.

on all remaining abdominal segments, except on the ninth in which white spots are absent and only one pair of reduced black spines is present. Anal plate is brownish and clasper black. The most conspicuous difference between the fifth instar and the two earlier instars is the presence of orderly arranged white spots on the trunk segments in the former.

Pupa. The pupa is 27 mm long by 6 mm wide (dorso-ventral axis) by 5 mm thick (laterally) and hangs from the edge of a partly eaten leaf of the food plant (Fig. 1). Overall, the pupa resembles an irregularly shaped wood chip slightly tinged with green meant to mimic moss. The head capsule area is adorned with one pair of 3 mm long "horns," and most of the cuticle surface of the pupa has a rough texture. Head, thorax, and wing pad areas light brown; abdomen ventrally with a moss-like green color and anteriorly with an irregular blotch (somewhat oval in shape) of dark brown. Abdomen ventrally with three pairs of knob-like projections on posterior segments. Approximately half-way along the distal edge of each wing pad a small "flange" of cuticle directed outwards, both together resembling tiny paddles directed downward. Dorsally, thoracic area adorned with a pair of knob-like projections, dark brown in color. Virtually entire length dorsally along anterior–posterior axis shaded with dark brown resembling a thick stripe. Cremaster strongly flattened, concave in ventral perspective and light brown. Pupa readily makes quick, whip-like movements of abdominal area when touched. Eclosion takes place in 10 days under the rearing conditions employed here. In the single instance observed, the butterfly emerged at 1000 h, with wings fully expanded within 15 minutes.

Larval behavior and food plant. The two larvae discovered on the *Pourouma* seedling (one early third instar and one fourth instar) occupied separate leaves. Both larvae rested on the ventral surfaces of leaves. Feeding occurred at the edge of a leaf, the larva remaining concealed from above on the ventral leaf surface. The larva does not construct silken pathways or nests on leaves. All of the six leaves of the food plant seedling appeared to be meristem or very fresh, and the two larvae were initially discovered on the largest leaves (each one about 19.5 × 7.5 cm, the latter for the greatest width). The larvae also readily accepted meristem leaves of *Cecropia*. With the roots kept moist in water-drenched paper towels and moss, the *Pourouma* seedling remained "lush" for almost three weeks in the plastic bag, facilitating the rearing of the larvae.

Seitz (op. cit.) reports the larva (instar not mentioned) as being "light green, often tinged yellowish, with light green lateral stripe, beneath darker coloured, head and spines black; on cocoa (*Theobroma*)." He describes the pupa as being "greenish-yellow, red-toned with branched wing-like continuations on the head; small white points, green spikes and black markings." My observations clearly differ from those of Seitz for *T. asesta* in Costa Rica, including the larval food plant. Meristem leaves of *Pourouma* bear a superficial resemblance to seedling leaves of *Theobroma cacao* L., particularly in terms of the pattern of venation and general oblongate shape of leaves. It is therefore not difficult to understand how the food plant could be misidentified without verification from a botanist knowledgeable about tropical vegetation. The leaves of an adult *Pourouma* tree take on a "stellate" appearance, markedly distinct from seedling leaves. The Seitz description of the larva and pupa presents a greater challenge. Three different alternatives are: (1) the descriptions are based upon newly molted individuals prior to cuticular-hardening; (2) a distinctly different subspecies or local variety of *T. asesta* is involved; and (3) a different species was being described. Based upon my limited data and the very limited amount of published information on *T. asesta* life cycle and natural history to date, it is not possible to determine which of the above alternatives is correct. I do conclude, however, that the Seitz food plant record is incorrect. As an evolutionary unit, the Moraceae are systematically far removed from the Sterculiaceae (e.g., Cronquist, 1981, An Integrated System of Classification of Flowering Plants, Columbia, New York, 1262 pp.). However, systematically unrelated groups of plants may have independently evolved chemical features rendering some members of each group to be acceptable as both oviposition sites and larval food plants for a particular species of butterfly (A. M. Young, unpub. data).

While I did not test for larval feeding on older, mature leaves of the food plant or *Cecropia*, larvae readily accepted meristem or young leaves. However, *Cecropia* saplings in nature have the highest levels of herbivore damage to mature leaves (Coley, 1983, Ecology 64:426–433). *Tigridia asesta* might be a herbivore specialized for feeding on young leaves of Moraceae in tropical forests. Brown and Heineman (1972, Jamaica and Its Butterflies, Classey, London) point out that the accuracy of the systematic position of *Tigridia* (formerly *Callizona*, as in Seitz, op. cit. also) in the tribe Coloburini depends

in part upon determination of natural history information, including larval food plant records. Species within this tribe such as *Colobura dirce* Linnaeus exploit moraceous plants such as *Cecropia* as larval food plants (Brown & Heineman, op. cit.). Thus, my record of *T. asesta* on *Pourouma* and its acceptance of *Cecropia* as well point to confirmation of this genus within the Coloburini. A significant departure in the natural history between *Tigridia* and *Colobura*, however, is the clustered oviposition and larval gregariousness in the latter genus (Brown & Heineman, op. cit.) and the solitary early stages in the former as reported for the first time in this note.

Susan Sullivan Borkin and Joan P. Jass discovered the larvae on the food plant, and Luis Poveda assisted with food plant determinations.

ALLEN M. YOUNG, *Invertebrate Zoology Section, Milwaukee Public Museum, Milwaukee, Wisconsin 53233.*

ERRATUM

In my recently published note appearing in this journal (J. Lepid. Soc. 38:237–242), *Papilio birchalli* in the three figure captions should be deleted and replaced with *Papilio victorinus*. During the preparation of revisions of this paper, I forgot to make these changes.

Allen M. Young

Date of Issue (Vol. 39, No. 2): 7 January 1986